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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,283	10/28/2003	Robert Richard Dykstra	9086M	3960

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THE PROCTER & GAMBLE COMPANY
Global Legal Department - IP
Sycamore Building - 4th Floor
299 East Sixth Street
CINCINNATI, OH 45202

EXAMINER

GRESO, AARON J

ART UNIT	PAPER NUMBER
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1726

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/695,283	Applicant(s) DYKSTRA ET AL.	
	Examiner AARON GRESO	Art Unit 1726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 6-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 6-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1, 6-9 are pending in this Application.

Any rejections and/or objections made in the previous Office Action and not repeated below, are hereby withdrawn.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. References previously cited are provided in a previous Office Action. References not previously cited are found per the attached PTO-892 for this Office Action.

A reply to the Applicants' arguments is presented after addressing the Claims.

The new grounds of rejection set forth below are necessitated by applicant's amendment filed on 16 June 2011.

In particular, Claim 1 and its dependent Claims, 6-9 have been amended to now require copolymer particles to comprise vinyl pyrrolidone and polyvinyl acetate in a specified composition weight range and to further limit the amount of benefit agent amount employed in compositions. This changes the Scope of the instant Claims.

Claim Rejections - 35 USC § 103

Claims 1 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wells et al. (US 5,883,058 and its incorporated reference US 5,120,532 to Wells et al.) in view of Hood (US 2002/0058015) as evidenced by Combariza et al. (Journal of High Resolution Chromatography 1994 vol 17 pp 643-646) and further in view of Garcia et al

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(J. Soc. Cosmet. Chem. Vol 27 pp 37-398 1976) as evidenced by Birtwistle (US 5,302,322).

Regarding Claim 1:

Claim 1 has 13 limitations with 11 indicated to be (A-K); except for recently amended limitations L and M, the limitations are listed and labeled below in the order in which they appear:

- A. Non-encapsulated benefit delivery system
- B. Aqueous dispersion of a water insoluble polymer particle and a benefit agent
- C. The polymer particle has a glass transition temperature from 50 to 120°C
- D. a vinyl acetate monomer
- E. a pyrrolidone monomer
- F. Weight ratio of cationic to non-cationic monomer is about 10 : 0.02 to 5 : 2.5
- G. Benefit agent and polymer are non-polymerically associated
- H. Response Factor (RF) of benefit agent, when placed upon the polymer is about 1.5 when measured by test Protocol I or II.
- I. Benefit agent is selected from group consisting of top note perfume raw materials and perfume accords having a Kovats Index from about 1000 to about 1400
- J. Dispersion [system] further comprising a colloidal stabilizer
- K. Dispersion [system] having a viscosity in a range between 7,000 and 10,000 cps.

Delivery system materials are further limited by also requiring:

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L. Comprising 0.02 to 0.05% by weight of a polymer particle and

M. Comprising 0.001% to 10% by weight of a benefit agent.

As to Claims 1 and 9:

Wells et al. discloses hair shampoo compositions having improved cleansing lathering and styling benefits comprising polymeric material (col 1 lines 4-15).

The shampoo materials comprise surfactants (Abstract) {taken as an adjunct material and **addressing Claim 9**}.

Further as to Claim 1:

The compositions, that are not indicated to comprise encapsulated material {**addressing A**}; are indicated to be shampoos and placed in water (col 2 lines 29-32) that comprise particles (col 6 lines 55-59), also comprise materials that are suitable for rendering the compositions aesthetically acceptable with additional benefits, identified as perfumes {taken as providing a benefit agent and **addressing B in part**} (col 21 lines 8-12 and 22-23). Compositions are to include water soluble, silicone cationic conditioning polymers (col 16 lines 40-67 and Col 17 and col 18 lines 1-31) with non-water soluble hair styling polymers (col 5 lines 32-33) {**further addressing B**}; the hair styling polymer having a Tg of 80°C (claim 1 col 24) {**addressing C**}.

Polymeric material is indicated to comprise hydrophobic vinyl acetate monomers (col 6 lines 14-16); that further comprise monomers that are not hydrophobic (col 5 lines 38-40). Copolymers being identified (col 5 lines 25-30) in the incorporated reference: Wells et al.; US 5,120,532; a preferred hydrophilic monomer being vinyl pyrrolidone and

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a preferred hydrophobic monomer being vinyl acetate (US 5,120,532: col 4 line 5 and line 24-25) with a specified material indicated to be a copolymer of pyrrolidone / vinyl acetate with up to 30% by weight (taken as from 0 to 30%) of pyrrolidone (col 4 lines 40-46) for shampoo systems; 30 percent being expected by one of ordinary skill in the art to be within the vinyl acetate : vinyl pyrrolidone range of 5 : 2.5 **{addressing D, E, and F}**.

Viscosities for the polymeric material comprising shampoo compositions are further indicated to be in the range of 1500 to 12,000 cps (col 21 lines 56-59); this range overlapping with the compositions **{addressing K}**.

As to J and G:

Wells et al. do not further indicate the presence of a colloidal stabilizer.

On the other hand, Hood et al. discloses compositions for delivering active materials (Title); compositions are indicated to be applicable to aqueous personal care formulations (page 1 [0016]); personal care formulations being recognized in the art as being a hair care product (page 1 [0005] and page 2 [0029])); active materials being indicated as fragrances (page 1 [0020]).

Compositions are indicated to comprise particles from 1 nm to <500 μ m, that comprise crosslinking agents (page 2 [0022]-[0024]) for aqueous two phase compositions with a viscosity of 1000 to a preferred 20,000 cps (ibid) **{addressing J}**. The compositions with the particles are indicated to be stable aqueous polymer compositions having water soluble polymers (Abstract).

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It would have been obvious to one of ordinary skill in the art at the time of the invention, to have added the colloidal particle material taught by Hood et al.; for providing stable compositions; to the compositions of Wells et al., ready for improvement, comprising the same or similar materials for the same or similar applications, with a reasonable expectation of success.

Further as to G, H and I:

Although Wells et al. indicates that perfumes are benefit-adding agents (col 21 lines 10-12 and 23), the reference does not further indicate the presence of a Kovats perfume material with a value of 1000-1400.

On the other hand, Hood et al. also discloses compositions comprising d-limonene (Example 17 page 5-6 and Example 13 page 5), an amount employed in compositions for comparison is indicated to be 0.25% (ibid.); the material being known in the art to have a Kovats value of about 1030, as would be expected to be known in the art {as evidenced by Combariza et al. Table 1 DB-1 entry 10 p 644}; the compositions are indicated to hold the d-limonene, {taken to be a top note material as it comprises a Kovats value of between 1000 and 1400 as provided by the Applicant s' arguments, 01 July 2010, first page Top Note/Kovats Index section, paragraphs 3-4}, to a greater extent than compositions not comprising the polymeric material (Example 17 page 5-6 and Example 13 page 5) **{addressing I}**. Therefore, the response factor of the benefit agent is would be expected to be at least about 1.5 as the benefit agent of the instant application and the prior art are identical, within the limitations identified by

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the Claim 1, and as the polymeric particles in the instantly claimed invention and contains a top note material in the 1000-1400 range **{addressing H}**.

Hood et al., also teach the benefit agent is non-polymerically associated with the polymer particles as the particles are indicated as being discrete {taken as separate} in a liquid matrix (page 2 [0027]) **{addressing G}**.

It would have been further obvious to one of ordinary skill in the art at the time of the invention, to have added the colloidal particle material taught by Hood et al.; for providing stable compositions for non-polymerically associated benefit agents; employing the same fragrant material taught by Hood et al. for stable compositions, to the compositions of Wells et al., ready for improvement, comprising the same or similar materials for the same or similar applications, with a reasonable expectation of success.

Further as to Claim 1 regarding amounts of L and M materials:

Although Wells et al., by way of incorporated reference (US 5,120,532 col 5 lines 5-10), indicates that the amount of polymer in the shampoo not be below 0.2% by weight in the water dispersion, Wells et al. does not disclose a composition with the amount of polymer to be employed in the amount of 0.002% to 0.05%.

On the other hand, shampoo presented by Wells et al. would be expected to be placed into human hair (col 7 lines 24-25), hair being the substrate; as such, the delivery system for delivering a benefit agent to a substrate would also be expected to comprise the substrate when placed in contact with the substrate.

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However, Wells et al. does not further teach of how much benefit delivery material would be in contact with an amount of the hair substrate.

On the other hand, when treating hair, Garcia et al. suggests that the amount of treating material employed be the amount recommend for a head of hair; a head of hair being taken as averaging 100 g (386 1st partial paragraph). Although Garcia et al. is silent towards the amount of material to be added to a head of hair, it is known in the art that a shampoo application to hair is typically taken as being 5-10 g, as evidenced by Birtwistle (col 4 lines 60-62). When 10 grams of about 0.2% composition is employed to cover a head of hair, the delivery system comprised with the substrate to be treated would be expected to comprise 0.02 % of polymer particle material; half that amount when added in an amount of 5 g to 100 grams of hair. Accordingly, the corresponding amount of benefit agent would also be expected to be reduced by about a factor of 10 or 20; in the case for item G above, the amount of benefit agent fragrance per Hood et al., would be expected to be diluted to 0.025 to 0.0125 weight percent when the delivery composition is taken to further comprise a substrate.

It would have been obvious at the time of the invention to one of ordinary skill in the art to have employed the delivery system to a human hair substrate, as suggested by Wells et al., in an amount appropriate for a head of hair, as taught by Garcia et al. in a typical amount known in the art, as evidenced by Birtwistle, to make treated substrate compositions to enable benefit delivery, employing the materials taught by Wells et al. as improved by Hood et al. supported with evidence by Combariza et al., with a reasonable expectation of success.

Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wells et al. (US 5,883,058 and its incorporated reference US 5,120,532 to Wells et al.) in view of (Hood US 2002/0058015) as evidenced by Combariza et al. (Journal of High Resolution Chromatography 1994 vol 17 pp 643-646) and further in view of Garcia et al (J. Soc. Cosmet. Chem. Vol 27 pp 37-398 1976) as evidenced by Birtwistle (US 5,302,322), as applied to Claims 1 and 9 above, and as further evidenced by the International Journal of Toxicology (1982 vol 1 no 4 pp 55-80); and as also evidenced by Marques et al. (Journal of the Brazilian Chemical Society vol 11 no 6 pp 592-599).

As to Claim 7:

The references do not specifically teach of perfuming fragrances with higher Kovats numbers greater than 1700.

On the other hand, Hood et al. further teach of compositions comprising myristyl myristate, a material with a detectable odor that is water insoluble {as evidenced by the International Journal of Toxicology, page 57 1st paragraph}, having a high boiling point {taken to correspond to a low vapor pressure and low amount of olfactorially detectable material}, as would be expected by one of ordinary skill in the art {as evidenced by the International Journal of Toxicology, pages 55-56 and Table 1}; towards applicable materials, the properties thereof being inherent. As the vapor pressure of the Myristyl myristate is taken as being low, while exhibiting an odor, it would be expected to have a higher Kovats number as the Kovats number is taken to be directly proportional to the

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number of carbon atoms in an organic material {as evidenced by Marques et al., page 594 col 1-2 bridging paragraph}.

For example, the Kovats value for d-limonene being 1024 corresponding to a formula of $C_{10}H_{16}$ with a carbon number of 10 and a molecular weight of 136 {per figure A below, as drawn by ChemDraw Ultra 12.0}, and for myristyl myristate ($C_{28}H_{56}$), a simple estimation would correspond to a Kovats number of higher than twice that of d-limonene, or greater than 2000. As the fragrance taught in Hood et al. is (Examples 13 and 17 pages 5-6) represented by d-limonene, the additional fragrance of Example 15 of the Hood et al. reference (page 5), also comprising myristyl myristate, is to be a composition comprising both d-limonene and myristyl myristate.

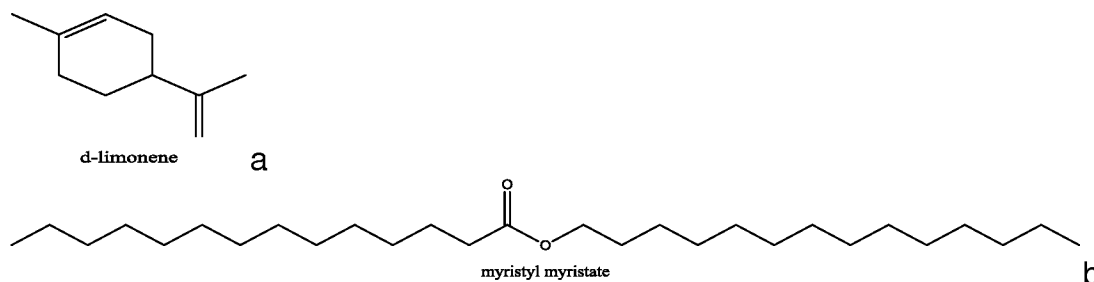


Figure A. Structures for d-limonene ($C_{10}H_{16}$) and myristyl myristate ($C_{28}H_{56}$).

Further as to Claims 6 and 8:

The LKI perfume raw material {d-limonene} would be expected to provides a first Average Response Factor (ARF_{LKI}) and the HKI perfume raw material {myristyl myristate} would be expected to provide a second Average Response Factor (ARF_{HKI}) with the perfume polymeric particle having a ratio of ARF_{LKI}/ARF_{HKI} of at least a value of about 1.2 as the composition polymer particles would be expected to have an affinity ratio of with at least 1.2 times greater than the second affinity as measured by Affinity

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Test Protocol III, as the polymer with fragrant ingredients read on the instant Claim 1, Claim 8 **{addressing Claim 8}**.

Further, as to Claim 6's polymer delivery system composition and the invention:

As the material compositions taught are also indicated in phases, with and without water soluble components are taken as being separable (e.g., Example 15 of Hood et al., comprising different phases) and the composition of Example 15 has two known fragrant materials, one of high and the other of lower Kovats numbers, and as the polymer particles are comprised having the same or similar of instant Claim 1., are taught by Hood et al. the material properties would be expected to have same or similar properties of those claimed.

Additionally where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on." In re Swinehart, 169 USPQ 226 (CCPA 1971).

Therefore, it would have been further obvious to one of ordinary skill in the art at the time the invention and to have employed a fragrant material with a high Kovats number, along with the fragrance material as taught by Hood et al., as evidenced above, that is known in the art to have a Kovats value in the range between 1000 and 1400; that would also be expected to be applicable to top note fragrance and lower Kovats index materials while possessing compositional properties calculated with the materials with the same or similar properties; while also providing particles for

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composition stabilization, to the compositions of Wells et al., with the same or similar materials for the same or similar application, with a reasonable expectation of success.

Response to Arguments

Applicant's arguments with respect to claims 1, 6-9 have been considered but are moot in view of the new ground(s) of rejection.

However, in regard to Welch et al. teaching away:

It would be expected that delivery of a fragrance by a shampoo would be expected to be evaluated by placement of the shampoo in hair. When considered with hair in a typical amount, as discussed for Claim 1 above, the composition would be expected to be further diluted with the content of hair when evaluating the effectiveness of the final shampoo composition; the comments by the incorporated reference of Welch et al. (US 5,120,532; col 5 lines 5-10) are taken as only referring to the composition prior to addition compositions applicable to shampoo evaluation that include a hair substrate.

Further, in regard to the amount of material employed:

It would be expected that the shampoo compositions would have had to have been tested when placed on hair to evaluate a minimum value of material for the shampoos. Therefore, the compositions of Welch et al. would have been further expected to have been employed in the compositions in an amount claimed.

As the compositions are indicated to comprise materials applicable to the delivery system, the compositions are taken as also applicable to amounts that include other applicable materials.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Examiner Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to AARON GRESO whose telephone number is (571) 270-7337. The Examiner can normally be reached on M-F 0730-1700.

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If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Patrick Ryan can be reached on 571 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JAMES J. SEIDLECK/
Supervisory Patent Examiner, Art Unit 1765

/Aaron J. Greso/